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SECURITY CLASSIFICATION OF THIS PAGE *(When Date Entered)*

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER<br>TR #1 | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE *(and Subtitle)*<br>LEADERSHIP AS A DESIGN PROBLEM | | 5. TYPE OF REPORT & PERIOD COVERED<br>TECHNICAL REPORT<br>6. PERFORMING ORG. REPORT NUMBER<br>CCL TECH REPORT #65 |
| 7. AUTHOR(s)<br>MORGAN W. McCALL, JR. | | 8. CONTRACT OR GRANT NUMBER(s)<br>N00014-76-C-0870 |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>CENTER FOR CREATIVE LEADERSHIP<br>P. O. BOX P-1<br>GREENSBORO NC 27402 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS<br>NR 170-825 |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>ORGANIZATIONAL EFFECTIVENESS RESEARCH PROGRAMS<br>OFFICE OF NAVAL RESEARCH<br>ARLINGTON VA 22217 | | 12. REPORT DATE<br>OCTOBER 1977<br>13. NUMBER OF PAGES<br>29 |
| 14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)* | | 15. SECURITY CLASS. *(of this report)*<br>UNCLASSIFIED<br>15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |

16. DISTRIBUTION STATEMENT *(of this Report)*

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*



18. SUPPLEMENTARY NOTES

CO-SPONSORED BY ONR AND THE CENTER FOR CREATIVE LEADERSHIP
PRESENTED AT THE 23RD INTERNATIONAL MEETING OF THE INSTITUTE OF MANAGEMENT SCIENCES, JULY 27, 1977.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

LEADERSHIP
ORGANIZATIONAL ENVIRONMENT
ORGANIZATIONAL STRUCTURE
ORGANIZATIONAL DESIGN

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

Two assumptions common in leadership research are questioned. The first is that leadership always matters; the second that a leader's style should be the critical variable in leadership research. It is suggested that these assumptions should be central questions, the answers to which involve environmental and organizational variables.

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S/N 0102-014-6601

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The potential in asking different questions is illustrated by examples of environmental and structural factors which influence leadership. Because these factors are in part determined by organizational design issues, leadership can be viewed as a design problem. Consideration also is given to how leaders might reduce the demands for personal leadership of subordinates by restructuring their work groups. Structural interventions in task, reward, feedback, and power distributions can serve as "substitutes" for leadership, and leaders can be viewed as designers.

The paper concludes that leadership is not the sterile conceptual area that some authors have suggested. Going beyond leader-subordinate frameworks, considering both macro and micro approaches, and asking different questions are promising ways to tackle the elusive leadership concept.

# LEADERSHIP AS A DESIGN PROBLEM

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Research for this paper was sponsored in part by the Organizational Effectiveness Research Program. Office of Naval Research (Code 452), under contract No. N00014-76-C-0870; NR 170-825. Presented at the 23rd International Meeting of the Institute of Management Sciences, Athens, Greece, July 27, 1977.

# LEADERSHIP AS A DESIGN PROBLEM

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> Leadership is not a viable scientific construct
> (Calder, 1977, p. 202)
>
> . . . the concept of leadership itself has outlived its usefulness
> (Miner, 1975, p. 200)
>
> The endless accumulation of empirical data has not produced an integrated understanding of leadership
> (Stogdill, 1974, p. vii)

For the past few years, increasing numbers of social scientists have echoed Calder's (1977, p. 181) sentiment that the "area of leadership [is] being held in vague disrepute." Unfortunately, what used to be a leaky bilge now more closely resembles a fully flooded ship. Definitional ambiguity, narrow conceptual foundations, and an unceasing stream of contradictory research results have led some leadership researchers to call for abandonment of the concept.[2]

Before taking to the lifeboats, however, it is important to ask if all other alternatives have been explored. At a minimum we should ask whether the equivocal research results on leadership are a function of conceptual sterility or an outcome of asking the wrong questions.

There are at least two important yet seldom questioned assumptions underlying most leadership research. The first is

that leadership always matters; the second is that a leader's personal style (e.g., structure vs. consideration) should be considered a critical leadership variable.[3]

Questioning the two assumptions raises two relatively new challenges: discovering what determines whether leadership will matter (and if so, how much), and understanding a broader range of what leaders do in organizations (the issue of how do they matter). Pursuit of these challenges will require some shoulder-rubbing between researchers who focus on organizational and environmental characteristics (the organizational designers and theorists) and those who focus on individual and small group behavior (the bulk of leadership researchers).

Both macro and micro approaches can be accused of short-sightedness when it comes to the topic of leadership. Typically, the macro approach postulates that the environment determines the organization's structure which in turn determines the type of leadership required. For example, an uncertain environment leads to a less rigid structure which calls for participative leadership (Lorsch & Morse, 1974, p. 131). While the environmental-organizational interface is treated in a sophisticated way, the variety of leader behavior is unduly limited to a hand full of styles vis-a-vis the subordinate group.

The micro-approach, on the other hand, has emphasized leader style (again, two or three factors) as they contingently relate to group performance. A major problem with contingency models is their oversimplification of a handful of organizational variables that determine what style should work best--such things as leader position power or structure of the group task. Notice that both the micro and macro approaches assume that leadership matters and that leadership can be described by a few style variables.

Following a suggestion by Scott and Mitchell (1972), I'd like to propose a wedding between the micro and macro approaches in hopes of bringing their complementary strengths to bear on a new set of leadership issues. What the offspring of this marriage might look like is the topic of this paper.

First I will suggest that there are multiple facets of leadership activity far beyond the style concept. Next, I'll explore how environmental and organizational characteristics might determine whether or not leadership matters. Finally, I'll look at leaders as designers by examining how leaders might create structures to substitute for personal leadership. Let me emphasize that the ideas presented are intended as prods. No attempt has been made to delineate a complete and polished framework.

Expanding the Leadership Space

The starting point is to find alternatives for the narrow focus on 1) the leader and the follower group and 2) leadership style as a major variable. Because of the lack of agreement on a definition for leadership (Stogdill, 1974; Bennis, 1959), we can choose an approach that is likely to open new horizons rather than limit them. Arbitrarily then, let's concern ourselves with people who occupy leadership roles in organizations--the executives, administrators, managers, supervisors, and others who bear leadership responsibilities in formal systems. Unlike tautological approaches which define leadership in terms of social influence (more likely a dependent variable than an independent one), the role approach allows us to identify whom we are talking about. Once done, we can describe what people in such roles do before asking how effective they are.

A relatively small but amazingly consistent research literature exists on the activities of formal leaders. A look at studies based on observational and diary techniques (e.g., Mintzberg, 1973; Sayles, 1964; Sayles & Chandler, 1971; Stewart, 1976; Dubin, 1962) reveals that formal leaders spend a great deal of time with people other than their immediate subordinates (usually more than 50%). Their activities are far more complex than initiating structure and consideration would lead us to believe. They are acting as figureheads,

spokespersons, liaisons, information monitors and transmitters, entrepreneurs, disturbance handlers, negotiators, etc. (see Figure 1). They are involved in numerous non-hierarchical relationships with peers, clients, suppliers, and so on. Their activities are brief, varied, fragmented. A substantial proportion of their activities are initiated by others rather than by the leaders themselves (Mintzberg, 1973).

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FIGURE 1

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This variety in leadership behavior will be important as we ask whether or not leadership matters. Environmental and organizational features may well determine the relative importance of the many roles leaders play. In other words, the organization's environment and design 1) create demands for certain leader activities, 2) constrain or enhance how important leaders will be, and 3) determine to some extent whether leaders can be designers. Examining these issues does not require an assumption that environment and organizational structure are causally related. Features of each act directly to influence leadership.

Environmental Impacts on Leadership

A major contribution from the macro approach is reframing the question "to whom does leadership matter?" Instead of looking at leadership effects on subordinate performance, the macro approach has asked how much leadership contributes to

FIGURE 1: A summary of Mintzberg's roles (adapted from Mintzberg, 1973, pp. 92-93)

| | | |
|---|---|---|
| A. | INTERPERSONAL ROLES | |
| | 1. Figurehead | Symbolic head. Performs duties of legal, ceremonial, social nature |
| | 2. Leader | Motivation and direction of subordinates, including staffing, training, etc. |
| | 3. Liaison | Develops and maintains a network of outside contacts used for information and favors |
| B. | INFORMATIONAL | |
| | 1. Monitor | Seeks and receives information, both internal and external, on the organization and the environment |
| | 2. Disseminator | Transmits information of various types to appropriate members of the organization |
| | 3. Spokesman | Transmits information on the organization to outsiders; serves as expert |
| C. | DECISIONAL | |
| | 1. Entrepreneur | Searches organization and environment for opportunities; initiates change |
| | 2. Disturbance Handler | Responds to unexpected disturbances and crises |
| | 3. Resource Allocator | Allocates organizational resources of all types. Makes or approves significant decision |
| | 4. Negotiator | Represents the organization at major negotiations; negotiates for resources, etc. |

organizational outcomes. Salancik and Pfeffer (1977a) found that mayors' control over expenditures was strongly related to the strength of interest groups and to tax sources. Lieberson and O'Connor (1972) found leadership influence constrained by type of industry and by economic conditions. Cohen and March (1974) amplified the impact of organizational type on leadership demands in their study of university presidents. Pfeffer and Salancik (1975) found that leader tenure and other characteristics could be predicted by contextual factors.

These studies are saying that environmental factors, ranging from laws to lobbying, have significant effects on whether and in what ways leaders have an effect. Such results have generated explanations of why leadership seems to matter more than it actually does (see the attribution explanation in Calder, 1977, and Pfeffer, in press).

One way environmental factors affect leadership is by determining who gets power in organizations and how power distributions change over time (Porter, 1976; Salancik & Pfeffer, 1977b). There is evidence that power accrues to organizational members who interface with critical environmental forces. To that extent, leaders in strategic parts of the organization will matter more because of their organizational influence and the centrality of their function.

Further, where the organizational environment creates power struggles, leaders who can direct the energy devoted to political battles will be critical.

Defining power relationships is not the only way uncertainty/instability in an organization's environment influences leader impact. As environments become increasingly complex, the information processing demands on leaders increase. The importance of the informational roles (Mintzberg, 1973) increases and with it dangers of superstitious behavior, undue confidence in early trends, and failure to integrate information (Slovic, 1972). Clearly environmental uncertainty, through its informational demands, creates a need for particular leader skills. To the extent leaders have to cope with complex information, they will matter more.

Environmental instability also affects leadership through its impact on job stress. There is evidence, that when job stress is low, leader consideration is related to group satisfaction and performance. When stress is high, leader structuring is more effective (Schriesheim & Murphy, 1976). Evidence is sketchy, but it seems reasonable to suggest that levels of job stress will influence the importance of other leadership roles. For example, stress is related to information processing (Schroder, Driver, & Streufert, 1976) and therefore likely to impact on informational roles leaders play.

Environmental characteristics also influence leadership by determining many of the problems leaders will have to confront. Leader time frames (Vaill, in press), the density of ill-defined, ill-structured problems (Mitroff, in press), and the types of incongruities to be interpreted (McCall, 1977b) all rest heavily on the forces acting in the organization's environment. Ill-defined problems change the nature of the decisional roles leaders play, as do problems with short time frames. Whether ill-defined problems enhance or neutralize leader importance is an open question. On one hand, the more random the environment the less likely that leaders can do much about it. On the other hand, random environments present rich opportunities for leaders who can interpret them.

Organizational efforts to gain control over their environments (Starbuck, 1976) suggest other ways that leadership might be affected. Stewart (1976) has shown that the basic activity structure of managerial jobs varies according to interconnectedness with the environment.

In summary, the environment of the organization can directly affect leadership by constraining what leaders can do and by determining which leadership roles will be most critical to the organization. Whether leadership <u>can</u> matter, how much, and in what ways is a function of environmental factors.

Leadership researchers need to acknowledge in their models the importance of environmentally relevant leader roles--roles that go far beyond leader-subordinate relationships. At the same time, macro researchers need to recognize that the objective environment may differ from the perceived environments leaders (and organizations) respond to (Starbuck, 1976; Weick, 1969). Leadership may matter because leaders create or deny uncertainty for others in their organizations. The consequences of inconsistency between reality and perception deserve further study.

Organizational Design and Leadership

If the external environment has impacts on leaders, then certainly the internal structure does too. The organization's design features mediate the environment for leaders by determining who gets what information, in what form, and so on. The structure of the organization and its formal processes, and the leader's relationship to them, also provide a direct stimulus for leader behavior.

Whereas the environment may be difficult and sometimes impossible to control, structures and processes are subject to rational design, though many organizations are structured by history and chance rather than by design. This means that the degree to which leadership will matter and the ways in which it will matter should be part of the design decisions. A

fundamental decision must be made, for example, on whether to design organizations for the "average" leader or to design them for above average leaders.

Making design decisions about leadership involves an intensive look at environmental constraints and at the ways design can mediate these constraints. Such decisions also require conscious deliberation over what leadership should mean to the organization. It is theoretically possible to design a structure in which leadership will matter very little. This is what the bureaucratic model is all about. It is also possible to design structures which place considerably more importance on individual leaders. As leaders matter more, the success or failure of the organization relies more heavily on individual skills and abilities.

At a very simplistic level, organizations designed to contain rigid and centralized hierarchies, formally specified duties, highly detailed policies and procedures, etc., will greatly constrain potential leadership contributions. In Katz and Kahn's (1966) terms, most leaders will be administering--using existing structure rather than originating or interpolating it. Their skill requirements will focus on "technical knowledge and understanding of [the] system of rules" (p. 312). The chance for leadership to make much difference will be restricted to relatively few leadership positions at the top

of the organization. Organizations structured in opposite ways, "organic" if you will, should be much more dependent on a wide range of leader positions and actions. The ability of leaders to gain system and subsystem perspective, to act in place of formal structure, and to exercise individual judgment will be critical. The organization may succeed or fail on the basis of its leaders' actions.

The intuitive appeal of global hypotheses about structural effects is great, but what data are available on how specific organizational features relate to leadership? Unfortunately not much direct evidence exists, although many inferences can be drawn.

For example, how does formalization of structure and process constrain leader behavior? Steven Kerr (1976) argued that formal rules and procedures neutralize the effects of leader structuring but not of consideration. Sayles and Chandler (1971) in their study of NASA found that specified standards predetermined managerial decisions. Stewart (1976) and Kerr (1976) concurred that formalized rules, procedures, and so forth drastically reduce the possibility of leader delegation.

But structural features operate in other, more subtle ways. Managerial selection processes tend to restrict the range of leader behavior possible (Pfeffer, in press). Similarity

with existing management seems to be one criterion for advancement, insuring that a certain narrow range of leader action is available. Anecdotally, such inbreeding is a severe problem in some organizations, but researchers have neglected this as a leadership issue.

Another structural feature reported to reduce leader impact (again anecdotal, but intuitively compelling) is the policy of rapid management movement. In some organizations the average tenure of managers in any one position is less than two years. While little research has been done on the implications of this, it seems quite probable that real impact on the organization takes more time than policy allows.

Perusal of a variety of references yielded the following additional examples of structural effects on leadership:

1) The greater the functional interdependence of organizational units, the greater the need for leader skills in negotiating and bargaining (Sayles & Chandler, 1971). Further, a fundamental design decision--whether the organization will be functional, divisional, or matrix--creates different role demands on leadership positions. Project managers, for example, have to be politically astute and good at negotiating with non-hierarchical others (Sayles & Chandler, 1971). This is probably less true for managers in divisional structures where authority relationships are more clearly defined.

2) Geographic isolation of subunits changes leadership demands. Barnowe's (1975) study of scientists showed that leadership matters more when the scientists are isolated from the scientific community. Most large organizations are geographically dispersed, meaning that many leaders are not physically located with the people they lead. This certainly must create some unique demands. At a mimimum it requires strategies for management in absentia.

3) It has long been argued that access to information and resources is a prime determinant of organizational power. To the extent that such access is specified by formal policies or systems, the design of the organization will determine which leadership positions will have the most potential influence over organizational outcomes. If high influence leaders, as determined by structure, are not the people dealing with critical environmental contingencies, leader impact on organizational outcomes will be reduced.

4) The visibility of managerial jobs is another design dimension likely to affect leader behavior. When a job incumbent's performance is clearly visible to others, there is pressure not to make mistakes (Sayles & Chandler, 1971). Responses to job visibility and the accompanying stress often take the form of "playing it safe" (Stewart, 1976; MacKinnon, 1975). Research on the visibility of managerial jobs is limited, but what does exist raises important questions for researchers,

e.g., do highly visible aspects of the leader's job get unwarranted attention, while less visible aspects are neglected?

5) Kamens (1977) has argued that organizations are bestowers of symbols. Such symbols provide legitimating rights, create membership categories, and certify people as members of those categories. The "carpet-on-the-floor, wooden-desk" phenomenon is one way of symbolically acknowledging the relative importance of a manager. Effective use of symbols may free leaders from having to convince others of their "right-to-lead." The organizational chart, a dramatic symbol of leadership authority, provides an example. Dotted line relationships on organizational charts create symbolic confusion by fuzzing authority lines. When there are several bosses, which ones do subordinates listen to? The meanest? The nearest? The nicest?

6) The way a task is structured has significant effects on the motivation of job holders (Hackman, 1976). While most studies of task effects have concentrated on non-leadership positions, such things as meaningfulness, responsibility, autonomy, feedback and so forth are important for leaders too. We often assume that management jobs, by their very nature, are high in motivating potential. This assumption deserves testing. The content of a managerial job is related to the nature of the jobs beneath it. Stewart (1976) argued that job enrichment for workers may mean job impoverishment for managers. Kerr (1976)

postulated that unambiguous, methodologically invariant, and feedback-rich tasks neutralize leader structuring behavior. Intrinsically satisfying tasks neutralize the effects of leader consideration. Thus, critical research issues surround the design of both leadership and non-leadership tasks: the motivation of leaders as well as the need for them to motivate their followers is intimately related to the structure of the task.

In summary, this discussion of the relationship between organizational characteristics and leadership has covered ten areas: formalization, standards, selection, management movement, task interdependence, geographic dispersion, information and resource control, visibility, symbols, and job structure. These factors by no means exhaust either the range or depth of organizational influences on leadership processes. They are sufficient, however, to document the importance of including such factors in future research on and conceptualizations of leadership. These design features are likely to change the emphasis leaders can or should place on the various roles they play in the organization.

Perhaps the most important leadership implication of design decisions is the power conferred on leaders to act as designers of their units. Traditionally, a leader's style or behavior has been highlighted relative to his or her impact on

the subordinate group. The leader is held accountable for the motivation, satisfaction, and performance of the subordinates. Most training efforts try to help leaders learn to behave in optimal ways to enhance such outcomes--putting the burden for group outcomes squarely on the personal action of the leader.

This emphasis on personal leader responsibility for the group may be unfair, unrealistic, and counterproductive. Thus far in this paper it has been argued that leaders in organizations engage in many roles, not all of which involve subordinates. The relative importance of these other roles will be determined by the environment and the organization, but it seems safe to guess that they often outweigh subordinate-focused roles.

In the next section it is suggested that many leadership activities involving the follower group can be handled by structures rather than by the leaders themselves. To the extent that leaders design their groups appropriately, they can free themselves for other roles.

## Leaders as Designers

The basic issue is to find substitutes for personal leadership of the follower group. With sufficient authority (usually vested by the organization) leaders can build substitutes through 1) influence over the basic composition

and structure of the group, 2) contingent distribution of rewards, 3) control over feedback, and 4) selective sharing of formal power. Use of substitutes represents an effort to create "self-managing work groups" (Hackman, 1976), or "self-focusing, self-enforcing" systems (Sayles & Chandler, 1971).

1. Composition and Structure of the Group

Hackman (1976) pointed out that some work groups can be essentially self-managing if the work is meaningful, the job holder is responsible for the product, and if there is performance feedback. Achieving these states requires at least three design elements: design of tasks, composition of the group, and establishment of group norms. Task design is obviously important, for it is the nature and structure of the work that allows meaningfulness, wholeness, and feedback. But as Hackman pointed out, not all people respond favorably to enriched, meaningful jobs. Composition of the group, therefore, is a critical factor. First, group composition will determine whether the skills and abilities needed to do the work are present. Second, composition will be an essential ingredient in responsiveness to the concept of enriched jobs.

Kerr (1976) hypothesized that certain characteristics of subordinates can substitute for leadership. For example, if the subordinates are able, experienced, trained, or knowledgeable, leader structuring is neutralized. If subordinates

are professionals, consideration is neutralized. And finally, if subordinates are indifferent toward organizational rewards, both structuring and consideration are neutralized.

The third design element is self-managing work groups--the establishment of self-supporting norms--is more nebulous. Nonetheless the leader can contribute to norm development through modeling, retranslation of history (Vaill, in press), and symbols.

Clearly much remains to be learned about self-managing work groups. Enough is known, however, to strongly suggest that many motivational actions expected of leaders can be accomplished by structural intervention.

2. Contingent Distribution of Rewards

Leaders as manipulators of reinforcers has been a major thrust in leadership research. From the need-based expectancy models to the recent incursion of operant conditioning approaches, leaders have been seen as critical reward mediators for their subordinates. Unfortunately, enormous time would be required for a leader to identify each subordinate's meaningful rewards, attach these rewards to appropriate behavior, and consistently administer rewards over time--even if it were possible to do so. Again it seems that substituting structural elements for personal mediation would be useful. Sims (1976) has suggested that many rewards can be distributed by peers, clients, the task itself, and the organization. DeVries (1976)

has documented a classroom structure in which a structured reward system is a critical element.

Rewarding desired individual performance is a major leadership responsibility. Much more research is needed to help leaders design reward systems that are not totally dependent on personal mediation by leaders. Managers spend relatively little time with individual subordinates and are often not present when "desired behavior" occurs. Design of self-supporting reward systems is an exciting option.

3. Control over Feedback

Providing feedback to subordinates is another obligation usually placed on a formal leader. In most organizations feedback is formalized in a performance appraisal system requiring the boss to hold an interview with each subordinate. In addition, leaders are expected to provide rich performance feedback on a day-to-day basis. As is the case with administering rewards, providing subordinates with valid, timely, rich feedback is an extremely difficult job. Personal mediation of feedback by leaders can easily reduce the time and energy available for other important roles. Structural interventions should relieve leaders of some of the feedback burden.

Sayles and Chandler's (1971) observations on the effects of interdependence and visibility suggest two such interventions. If units or individuals are interdependent, lagging

performance by one party is likely to stimulate immediate feedback from the other. Where task interdependence is impractical, it may be possible to increase job visibility. The more important-others viewing the behavior or product, the more likely the performer will receive feedback without leader intervention.

Another design challenge is building feedback into the job itself. This is an important element in self-managing work groups (Hackman, 1976), and task feedback is highly valued by recipients (Greller & Herold, 1975).

4. Selective Sharing of Power

For a variety of reasons, including organizational constraints and a lack of solid, how-to-do-it knowledge, leaders will not always be able to (or want to) design substitutes for personal mediation. By their choice of lieutenants and the formation of coalitions (Lundberg, in press), leaders can disperse personal mediation among others. This is not a generalized strategy of participative management; rather it represents a means of freeing the leader's time by delegating to carefully selected subordinates.

Mintzberg (1973) argues that all formal leaders engage in all ten managerial roles (though emphasis on particular roles will vary). A designing leader might assess which roles best fit his or her interests and skills, then find subordinates to

help with the others.

A hypothetical formal leader might enjoy and be good at dealing with information, supervising, and handling disturbances. Roles involving representing the unit (e.g., figurehead, spokesman, negotiator) might be delegated to a subordinate skilled in those activities.

In sum, group structure, rewards, feedback, and power are all areas in which leaders can use design strategies to free themselves for other activities. Other examples no doubt abound. But can structural leadership strategies really work? While there is little conclusive evidence on leadership directly (the question has not been asked very often), there are some supportive data.

Teams-Games-Tournament (TGT), a classroom structure, uses a carefully designed combination of group structure, rewards, and feedback to enhance learning. A series of rigorous field experiments have documented the positive effects of these structures on learning, attitudes, and race relations (DeVries, 1976). Further, the effects held up even when teachers were randomly assigned, indicating that the TGT structure successfully withstood individual differences among teachers. Like the design strategies suggested for leaders, the TGT structure <u>does not</u> replace teachers. It allows them to concentrate their energies on putting real substance into a structure that works. Further, TGT is a supplement to ordinary classroom activities, thereby giving teachers an additional tool for doing their jobs.

The point is not to sell TGT, but to suggest that leaders thinking like designers and equipped with structural tools can also free some energy to tackle critical problems. Identifying structures that can aid leaders represents a new focus for both micro and macro leadership researchers.

A final note: there is a fundamental paradox to resolve before leaders can be effective designers. The push to make organizations leader-proof through formalization and standardization takes away the discretionary power leaders need to build effective substitutes. Because individuals vary in their competence, organizations designed to maximize leadership effects run the risk of sinking with poor leaders. Formalization, however, reduces the range of leader behavior available to cope with environmental changes. Further, standardization, rules, and procedures reduce the possibility of a self-managing management.

## Of Leaders, Designers, and Researchers

This odyssey began with some pessimistic statements about the results of leadership research. It ends with a note of optimism based on the following observations: 1) much of the sterility of which leadership research is accused is a product of asking the wrong questions. It is not at all clear that the concept itself is empty. 2) in spite of some myopia by both organizational theorists and leadership researchers,

enough work already exists to surface important and relatively unexplored aspects of leadership. It is all the more exciting because the promising areas lie in regions requiring combined macro and micro approaches. 3) By broadening the definition of leadership--using a framework based on what leaders actually do--it is possible to ask about the ways leadership matters. Characteristics of the environment, the organization, and the individual leader can act to constrain or enhance the leader's ability to carry out the various roles. In many cases these characteristics will be complex and contradictory. It is in this rich complexity that research on leadership stands to move forward. It is in failing to confront this complexity that leadership research can be faulted.

If successful, this paper has illustrated that an organization's environment and design can influence the ways and degree to which leadership matters, what leadership activities will be most important, and the leader's latitude to design. It has also illustrated ways leaders can use structure to free their time for activities other than motivating, rewarding, and controlling. Unfortunately, the illustrations do not provide a consistent or complete framework for addressing leadership issues. They may, however, prod us to ask different questions, to look at the phenomenon in different ways, and perhaps to begin studying leadership as the

interdisciplinary problem it really is.

The impact of leadership is not totally determined by environmental/organizational constraints or by the individual leader. The implication is simply that leadership itself is a significant design issue. Through their design features, organizations can constrain or enhance leadership contributions. Through their awareness of design features, leaders can gain some control over the varied demands placed on them.

## References

Barnowe, J. T. Leadership and performance outcomes in research organizations: The supervisor of scientists as a source of assistance. Organizational Behavior and Human Performance, 1975, 14, 264-280.

Bennis, W. G. Leadership theory and administrative behavior: The problem of authority. Administrative Science Quarterly, 1959, 4, 259-301.

Calder, B. J. An attribution theory of leadership. In B. Staw & G. Salancik (Eds.), New directions in organizational behavior. Chicago: St. Clair, 1977.

Cohen, M. D., & March, J. G. Leadership and ambiguity: The American college president. New York: McGraw-Hill, 1974.

DeVries, D. L. Teams-Games-Tournament: A gaming technique that fosters learning. Simulation and Games, 1976, 7, 21-23.

Dubin, R. Business behavior behaviorally viewed. In G. Strother (Ed.), Social science approaches to business behavior. Homewood, Ill.: Dorsey & Irwin, 1962.

Greller, M. M., & Herold, D. M. Sources of feedback: A preliminary investigation. Organizational Behavior and Human Performance, 1975, 13, 244-256.

Hackman, J. R. The design of self-managing work groups (Tech. Rep. No. 11). New Haven, Conn.: Yale University, School of Organization and Management, December 1976. (NTIS No. AD-A036 731)

Kamens, D. H. Legitimating myths and educational organization: The relationship between organizational ideology and formal structure. American Sociological Review, 1977, 44, 208-219.

Katz, D., & Kahn, R. L. The social psychology of organizations. New York: Wiley, 1966.

Kerr, S. Substitutes for leadership (Working paper 76-23). Columbus: Ohio State University, College of Administrative Science, Division of Research, April 1976.

Lieberson, S., & O'Connor, J. F. Leadership and organizational performance: A study of large corporations. American Sociological Review, 1972, 37, 117-130.

Lorsch, J. W., & Morse, J. J. Organizations and their members: A contingency approach. New York: Harper & Row, 1974.

Lundberg, C. The unreported research of Dr. Hypothetical: Six variables in need of recognition. In M. W. McCall, Jr., & M. M. Lombardo (Eds.), Leadership: Where else can we go? Durham, N.C.: Duke University Press, in press.

MacKinnon, D. W. The assessment and development of managerial creativity. An invited address given at the Third International Congress on the Assessment Center Method, Quebec City, Quebec, May 1975.

McCall, M. W., Jr. Leaders and leadership: Of substance and shadow. In J. R. Hackman, E. E. Lawler, III, & L. W. Porter (Eds.), Perspectives on behavior in organizations. New York: McGraw-Hill, 1977a.

McCall, M. W., Jr., Making sense with nonsense: Helping frames of reference clash. In P. C. Nystrom & W. H. Starbuck (Eds.), Prescriptive models of organizations: TIMS Studies in the Management Sciences (Vol. 5). Amsterdam: North-Holland, 1977b.

McCall, M. W., Jr., & Lombardo, M. M. Leadership: Where else can we go? Durham, N. C.: Duke University Press, in press.

Miner, J. B. The uncertain future of the leadership concept: An overview. In J. G. Hunt & L. L. Larson (Eds.), Leadership frontiers, Kent, Ohio: Kent State University Press, 1975.

Mintzberg, H. The nature of managerial work. New York: Harper & Row, 1973.

Mitroff, I. Systemic problem solving. In M. W. McCall, Jr., & M. M. Lombardo (Eds.), Leadership: Where else can we go? Durham, N. C.: Duke University Press, in press.

Pfeffer, J. The ambiguity of leadership. In M. W. McCall, Jr., & M. M. Lombardo (Eds.), Leadership: Where else can we go? Durham, N. C.: Duke University Press, in press.

Pfeffer, J., & Salancik, G. R. Determinants of supervisory behavior: A role set analysis. Human Relations, 1975, 28, 139-154.

Porter, L. W. Organizations as political animals. Presidential Address to the Division of Industrial-Organizational Psychology, American Psychological Association, Washington, D. C., September 1976.

Salancik, G. R., & Pfeffer, J. Constraints on administrator discretion: The limited influence of mayors on city budgets. Urban Affairs Quarterly, 1977, 12, 475-498. (a)

Salancik, G. R., & Pfeffer, J. Who gets power--and how they hold on to it: A strategic-contingency model of power. Organizational Dynamics, 1977, 5, 3-21. (b)

Sayles, L. R. Managerial behavior: Administration in complex organizations. New York: McGraw-Hill, 1964.

Sayles, L. R., & Chandler, M. K. Managing large systems. New York: Harper & Row, 1971.

Schriesheim, C. A., & Murphy, C. J. Relationships between leader behavior and subordinate satisfaction and performance: A test of some situational moderators. Journal of Applied Psychology, 1976, 61, 634-641.

Schroder, H. M., Driver, M. J., & Streufert, S. Human information processing: Individuals and groups functioning in complex social situations. New York: Holt, Rinehart, and Winston, 1967.

Scott, W. G., & Mitchell, T. R. Organization theory: A structural and behavioral analysis (Rev. ed.). Homewood, Ill.: Irwin and Dorsey, 1972.

Sims, H. P., Jr. The leader as a manager of reinforcement contingencies: An empirical example and a model. Paper presented at the Fourth Biennial Leadership Symposium, Southern Illinois University at Carbondale, October 1976.

Slovic, P. Psychological study of human judgment: Implications for investment decision making. Journal of Finance, 1972, 27, 779-799.

Starbuck, W. H. Organizations and their environments. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally, 1976.

Stewart, R. Contrasts in management: A study of different types of managers' jobs: Their demands and choices. London, England: McGraw-Hill, 1976.

Stogdill, R. M. Handbook of leadership: A survey of theory and research. New York: Free Press, 1974.

Vaill, P. B. Towards a behavioral description of high-performing systems. In M. W. McCall, Jr., & M. M. Lombardo (Eds.), Leadership: Where else can we go? Durham, N. C.: Duke University Press, in press.

Weick, K. E. The social psychology of organizing. Reading, Mass.: Addison-Wesley, 1969.

## Footnotes

[1]The author wishes to thank Elizabeth D. Conklyn, David L. DeVries, and Michael M. Lombardo for their comments on early drafts of this paper. Norma Kay and S. S. Bell deserve special credit for helping prepare the final manuscript.

[2]A critique of leadership research amplifying these themes can be found in McCall, 1977a.

[3]The first assumption has been addressed by Pfeffer (in press) and Kerr (1976). The second assumption has come under increasing attack by numerous authors (see, for example, McCall and Lombardo, in press).

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